7 7) Constraints (on a single table: Employees) a) Create the Employees table with EmployeeID as PRIMARY KEY, Email as UNIQUE, and Salary with a CHECK (Salary > 10000) constraint. b) Add a NOT NULL constraint on the Name column in the Employees table and try inserting a record without the name. c) Add a DEFAULT value ‘Active’ to the Status column in Employees, and insert a record without specifying the status to verify the default. d) Insert a record into Employees where Salary is less than 10000 to test the CHECK constraint. e) Try inserting two employees with the same Email ID to verify the enforcement of the UNIQUE constraint.

Which recent tool or technology have you studied for database management, and can you briefly explain its key features and why it is used in the industry?

CREATE TABLE Employees (

EmployeeID INT PRIMARY KEY,

Name VARCHAR(100),

Email VARCHAR(100) UNIQUE,

Salary DECIMAL(10,2) CHECK (Salary > 10000),

Status VARCHAR(20) DEFAULT 'Active'

);

ALTER TABLE Employees

MODIFY Name VARCHAR(100) NOT NULL;

INSERT INTO Employees (EmployeeID, Email, Salary)

VALUES (1, 'test.email@example.com', 15000.00);

INSERT INTO Employees (EmployeeID, Name, Email, Salary)

VALUES (2, 'Rahul Verma', 'rahul.verma@example.com', 20000.00);

SELECT \* FROM Employees;

INSERT INTO Employees (EmployeeID, Name, Email, Salary)

VALUES (3, 'Sneha Kapoor', 'sneha.kapoor@example.com', 8000.00);

INSERT INTO Employees (EmployeeID, Name, Email, Salary)

VALUES (4, 'Kunal Mehta', 'kunal.mehta@example.com', 25000.00);

INSERT INTO Employees (EmployeeID, Name, Email, Salary)

VALUES (5, 'Anjali Singh', 'kunal.mehta@example.com', 30000.00);

**📚 Recently Studied Database Management Tool: MongoDB Atlas**

✅ **Key Features:**

* **Fully Managed Cloud Database:** Easily deploy, manage, and scale MongoDB in the cloud.
* **Global Clusters:** Supports global applications with automatic sharding and multi-region replication.
* **High Availability:** Automatic failover, backups, and monitoring.
* **Advanced Security:** Encryption, role-based access control, network isolation.
* **Serverless Option:** Run database operations without provisioning servers (pay-per-operation).
* **Real-Time Analytics:** Integrated with Atlas Data Federation and Atlas Search.

✅ **Why it’s used in Industry:**

* Ideal for **modern web and mobile applications** needing **scalability**, **flexibility**, and **high performance**.
* Helps startups and large enterprises reduce infrastructure management costs and complexity.
* Supports a **document-oriented** approach, which is faster for rapidly evolving applications.